

The Best of Both Worlds:
The Art of Selecting New York and Hamburg Steinway Pianos
Based on Repertoire

By
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Abstract

Keyboard instruments have evolved in different forms and shapes over the centuries. A modern piano is a good example, having undergone many trials and experiments. Pianos have become larger in size, more sophisticated mechanically, and increased in tone and dynamic ranges throughout history. The development of the piano has always been closely associated with changes in musical styles, and demands from the composers and performers.

Pianists are often used to playing on whatever instrument they are given, and this praiseworthy adaptability is unmatched by any other instrumentalists. However, also true is their lack of understanding of their very own instruments on which they spend a lifetime. This unfortunate disconnect hinders the potential of reaching the highest form of artistry. Instead, intimate knowledge and an ability to correctly assess a piano will lead to a more wholesome performance, when a pianist is able to identify the instrument's weaknesses to be aware, and strengths of which to take advantage.

This project will address the technical and aesthetic differences between the New York and Hamburg Steinway pianos, and how one piano may be more suitable for certain styles of music than the other. It aims to provide deeper understanding of the instrument, explore the art of piano selection, and equip pianists with an ability to make an informed assessment of pianos, thereby enriching the art of the piano as a whole. Piano repertoire discussed include: Bach's Prelude and Fugue in D Minor, BWV875 by J. S. Bach, Piano Sonata in D Major, K. 576 by W. A. Mozart, *Étude-Tableau* in E-flat Minor, Op. 39 No. 5 by S. Rachmaninoff, and Prelude and Fugue in G Major, Op. 87 No. 3 by D. Shostakovich.

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Introduction

Keyboard instruments have evolved in different forms and shapes over the centuries. A modern piano is a good example, having undergone many trials and experiments. Pianos have become larger in size, more sophisticated mechanically, and increased in tone and dynamic ranges throughout history. The development of the piano has always been closely associated with changes in musical styles, and demands from the composers and performers. Their wishes, along with technological advancements and scientific discoveries, drove manufacturers to make improvements, which in return gave composers new possibilities. Since the invention of the instrument accredited to Bartolomeo Cristofori, there have been records of many exchanges of ideas made between composers and piano builders. Although most of his keyboard works were not meant for the piano, J. S. Bach is said to have made a few comments about this newly developed instrument that could play forte and piano.¹ His sons, particularly Carl Philipp Emanuel and Johann Christian, left a significant number of original works for the keyboard, some of which were composed for the piano, with varying dynamics. Haydn's reference to the piano and its traits are found in his letters during the middle and end of his career.² Makers like Stein and Späth and their instruments' characteristics are mentioned in many letters between the Mozarts.³

In the nineteenth century piano manufacturing blossomed, paving the way for the realization of the instrument as we know it today. In the first decades of the nineteenth

¹ Arthur Loesser, *Men, Women & Pianos: A Social History* (NY: Simon and Schuster, 1954), 39-41.

² Sandra P. Rosenblum, *Performance Practices in Classic Piano Music: Their Principles and Applications* (Bloomington: Indiana University Press, 1988), 19-21.

³ Rosenblum, *Performance Practices in Classic Piano Music*, 22.

century, during Beethoven and Hummel's lifetimes, the range of the keyboard expanded from five and a half octaves to six and a half, or even seven in some cases. Regional traits and differences were also most pronounced in this era. Two major schools of piano building were the Austro-German and English. Austro-German pianos, such as those by Graf, Stein, Streicher, and Walter, were known for their lightness of touch and sensitivity in sound. Pianos of English builders Broadwood and Stodart boasted of their richness of tone and sturdiness of construction, although their heavy action was often criticized. A Frenchman, Sébastien Érard, responsible for the invention of the double escapement, built his instruments in the English style with metal bars fortifying the soundboard, and felt hammers striking the strings in higher tension.⁴ Later in the century, the double escapement mechanism was used increasingly and constantly improved, the development of the cast iron frame allowing for much higher string tension, and the key dip⁵ was ever increasing. All of these traits contributed to the shape, sound, and feel of the piano that is familiar to a modern pianist. Finally came Steinway and Sons, its founder Heinrich Engelhard Steinweg and his successors, who crowned the standardization of the modern piano. Since then, although minor alterations have been made, the Steinway piano and its construction have remained as a standard for other manufacturers. For over a century, Steinway pianos have dominated the world's concert stages while others strove to emulate them. New York and Hamburg have been Steinway strongholds, producing instruments that possess the distinctive features of each region. Although built under one company name, differences in the types of materials used, aesthetic preferences in the quality of sound, and musical tradition contribute to resulting disparities in the finished

⁴ David Crombe, *A Photographic History of the World's Most Celebrated Instrument* (San Francisco: Miller Freeman Books, 1995), 34.

⁵ Distance between the key at resting point and completely depressed.

products. Performers often talk about the perceived variances between the two instruments. However, these discussions are usually not based on the understanding of historical background and technical differences. It is imperative that pianists become more familiar with the nature of their own instruments. It will surely enhance both the intellectual and artistic values of pianism.

This project addresses the technical and aesthetic differences between the New York and Hamburg Steinway pianos, examining the ways in which one piano may be more suitable for certain styles of music than the other. It aims to provide deeper understanding of the instrument, explore the art of piano selection, and equip pianists with an ability to make an informed assessment of pianos, thereby enriching the art of the piano as a whole.

A Modern Piano

Music has evolved over the centuries, and changes of style did not happen suddenly on a specific day. The same can be said about the piano. It has always gradually transformed however minor the changes were, and it is impossible to point out at which exact moment a modern piano was born. There seems to be no definitive criteria that a piano needs to satisfy to be categorized as such an instrument. However, many historians, technicians, and builders refer to the over-strung⁶ grand piano first introduced by Steinway and Sons in 1860 as the “forerunner to the modern concert grand.”⁷ Steinway and Sons, whose family history and contribution to the instrument will be described in the sections below, had an enormous impact on the creation and development of the

⁶ Overstrung, over-stringing, and cross-stringing are used synonymously and interchangeably.

⁷ Crombe, *A Photographic History of the World's Most Celebrated Instrument*, 48.

modern piano. Today, the production of modern pianos around the globe is more standardized than ever before, making it easier for performers and technicians to identify parts and their function, or to address their problems. For this particular project, the definition of the piano is as follows. First and foremost, a modern piano considered herein shall refer to a grand piano. All the others such as upright, square, or giraffe pianos will not be discussed. A modern piano must contain a cast iron frame, otherwise known as the plate. The plate is used to withstand the tension created by the strings. Strings are coiled at the tuning pins on one end, and terminated on the hitch pins of the plate. Between these two ends, strings travel through the bridge, which is glued to the soundboard. The pins inserted on the bridge guide the strings and ensure proper spacing of them.

Secondly, a modern piano must also be equipped with a double escapement action mechanism. This concept, sometimes called the repetition action, was first introduced by Sébastien Érard in the first score of the nineteenth century. This mechanism is most eloquently described by Arthur Loesser, the author of *Men, Women & Pianos: A Social History*:

This consisted of a number of smaller levers and springs, the effect of which was to let the hammer rebound from the string, not to the original point of rest, but to an intermediate point much closer to the string, to remain this as long as the finger was still holding the key down. Only upon complete release of the key did the hammer eventually return to its zero position. It is clear that this action greatly facilitated the repeating of single notes; the hammer had now to traverse less than half the distance for each reiteration that it traveled for the initial stroke. Figures involving rapid repeated notes were beginning to become an attractive feature of piano music.⁸

Improved by succeeding manufacturers over the last two hundred years, the double escapement mechanism is far more reliable and uniform today. At the core of this

⁸ Loesser, *Men, Women & Pianos*, 337-338.

system is a part called the *repetition*, otherwise referred to as a *wippen*, which enables the action described by Loesser. Although some builders have started incorporating carbon fiber and other materials in their action parts, Steinway & Sons continues to produce wooden hammer molding, shanks, and flanges. For this reason, for this paper, only the wooden *repetitions* will be taken into consideration.

Thirdly, the hammer of a modern piano must be made of compressed felt around a wooden molding. The use of felt is one of the distinctions that separates the sound of the modern piano from the period instruments, often called the fortepiano. Fortepianos commonly employed hammer heads made of tanned deer-leather⁹ until Henri Pape introduced felt hammer covering in 1826, which gradually became the norm.¹⁰ The felt hammer on a modern piano is then glued to a wooden hammer shank, to be placed on top of the *repetition*. Presence of other features, such as the back check, back action that controls the dampers, lyre mechanism for the pedals, and rim of the piano, is expected as well.

Emergence of Steinway and Sons

The Steinway Family

Heinrich Engelhard Steinweg (1797 – 1871), a cabinet-maker who also produced keyboard instruments, was the man behind the development of a modern piano and his family's legacy. In 1835 he opened a piano shop in Seesen, Germany. Although he swiftly gained fame and popularity as an instrument maker there, economic and political complications in the region caused people like the Steinweg family to look for business

⁹ Loesser, *Men, Women & Pianos*, 339.

¹⁰ Ibid.

and life opportunities elsewhere. America, the New World, was the destination for many Germans at the time. Heinrich Steinweg at the age of fifty three, along with his entire family save his eldest son C. F. Theodor (Anglicized henceforth to Theodore), boarded the S. S. Helene Sloman, sailed across the Atlantic, and settled in New York in 1850.¹¹ Henry and his children worked for different piano manufacturers in New York such as Leuchte, James Pirrson, and William Nunns & Company, until the opening of their own company under their Anglicized name, Steinway and Sons, in 1853.¹²

The Steinway Piano

Before leaving Germany, Heinrich had built more than four hundred pianos. These included the instruments known as square pianos, as well as grand pianos.¹³ Heinrich's grand piano from 1836, the earliest of this kind that is extant, has an appearance akin to the Viennese pianos of the era, which many modern pianists today call a period instrument or fortepiano.¹⁴ It was after Heinrich had arrived in the United States and set up his company in New York that the Steinway piano took its course in eventually becoming the epitome of an ideal modern piano. During the mid-nineteenth century, all of the components of piano building were rapidly evolving. There were constant redesigning of case construction and experimentation with the action mechanism and its parts. Many of the major inventions that are incorporated into the modern piano came from the latter half of the century. It was Heinrich's sons, the first generation of Steinways, who determined the fate of a standard modern grand piano. Among the six of Heinrich's children, five of whom were male, C. F. Theodore, Henry Jr., and Albert

¹¹ Richard K. Lieberman, *Steinway & Sons* (Ann Arbor, MI: Edwards Brothers, 1995), 10-15.

¹² Lieberman, *Steinway & Sons*, 15-16.

¹³ Lieberman, *Steinway & Sons*, 10-12.

¹⁴ Theodore Steinway, *People and Pianos* (Pompton Plains, NJ: Amadeus Press, 2005), 9.

Steinway are remembered as innovators and pioneers. Surviving letters exchanged between the brothers between New York and Hamburg show experiments and innovations both fruitful and vain, and perhaps more importantly, their passion and determination for building a better instrument.¹⁵ One of the earliest innovations, yet one of the most significant, was the application of the over-stringing technique in a grand piano. The United States patent record indicates that the patent for the design and specifications of an over-stringing *plate* was first issued to Henry Steinway Jr. on December 20, 1859 (see figure 1).¹⁶

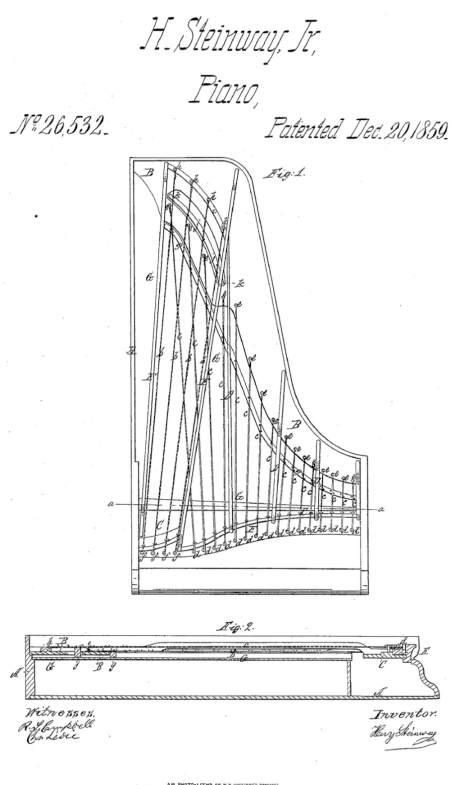


Figure 1: Grand Piano by Henry Steinway Jr., from United States Patent Office

¹⁵ Steinway, *People and Pianos*, 10-15.

¹⁶ Paul Barton, *Steinway Patent Reviews* (Ann Arbor, MI: Lulu Press, 2007), 10.

(Public Domain)¹⁷

The concept of over-stringing was not new, as it was applied to square and upright pianos as early as 1828 for the downsizing of the instruments.¹⁸ Henry Steinway Jr. in his words describes the invention of an over-stringing plate for a grand piano as “the arrangement of the strings of a number of the lower notes in a tier above the others,” “for the purposes of using larger strings”, by which he is “enabled to bring the bridges nearer to the middle of the sound board than they are in any other grand piano-forte”.¹⁹ Not only was he able to use “larger strings”, but by bringing the bass bridge closer to the middle, a more vibrant area than close to the edges of the soundboard, the bass notes of the grand piano now had even more resonance. One can say that this invention is the beginning of the “Steinway sound” that is described so articulately by Arthur Loesser:

The end result of the Steinway effort was a tone-producing tool of matchless strength and sensitiveness. It was a structure that could withstand the most passionate punches of the most furious virtuoso. No latter-day Liszt could smash it. All the muscle of the strongest man could now be utilized for tonal expression. Moreover, the unheard-of volume was combined with a noble quality of sound: it was a sound that embodied the nineteenth century ideal to the full – rich and ringing, and wrapped in billows of overtone fuzz, especially in the bass. It was a tone that craved to stream out of itself, to blend with all other tone, to merge ecstatically into a universal ocean of tone. It was a marvelous kind of sound for the music that people loved then: thick, thundering piles of chords, booming batteries of octaves, and headlong, sizzling double jets of arpeggios. But the single Steinway tone, struck gently and held, also worked its ineffable spell, taking an endless, yearning time to die.²⁰

Over the course of their one-hundred-and-sixty-five years of history, Steinway and Sons has produced about thirty models of pianos. About twenty of the designs, or

¹⁷ Grand Piano by Henry Steinway Jr., from United States Patent Office (Public Domain). Compiled by Paul Barton in his *Steinway Patent Review*, (Ann Arbor: Lulu, 2015). Reproduced with the permission of the compiler.

¹⁸ Loesser, *Men, Women & Pianos*, 401-402.

¹⁹ Barton, *Steinway Patent Reviews*, 11.

²⁰ Loesser, *Men, Women & Pianos*, 495.

“scales” as they call it, are for grand pianos.²¹ Some of them are significant improvements of the same models, and others are completely unique in their size and features. It was during the turn of the twentieth century that Steinway started using letter names for their models. There have been eight lettered models for the grand: S, M, L, O, A, B, C, and D. Most of the models have undergone modifications in scale, size, and materials. The New York factory is currently producing all but models L and C,²² whereas the Hamburg factory manufactures all but model C.²³

Differences Between the “Siblings”

Material Differences

Depending on the vintage of the production, pianos vary in structure, touch, and tone, even among the same models from the same factory. Although the overall construction and concept of a grand piano have not changed since the latter half of the nineteenth century, Steinway & Sons has always endeavored to build a more efficient and reliable instrument with greater resonance and tone. Since the opening of the Hamburg factory in 1880 by C. F. Theodore, Steinway & Sons has manufactured pianos with flavors from their origins of production, either North America or Europe, under the same company name. Kent Webb, currently a manager of technical service and support at the Steinway & Sons in New York, describes that the two as having “very strong shared

²¹ Roy F. Kehl and David R. Kirkland, *The Official Guide to Steinway Pianos* (Montclair, NJ: Amadeus Press, 2011), 151-227.

²² Steinway & Sons, “Steinway Grands,” accessed March 25, 2018, <https://www.steinway.com/pianos/steinway/grand>.

²³ Steinway & Sons, “Steinway Grand Pianos,” accessed March 25, 2018, <https://eu.steinway.com/en/pianos/steinway/grand-pianos/>.

family traits, but the siblings have different personalities.”²⁴ The most recognizable differences between New York and Hamburg pianos, for the performers, are in their physical appearances. The case design is perhaps the most obvious, with Hamburg having more rounded edges than the New York pianos. The difference between the arms of the pianos is the most noticeable (see figure 2).



Figure 2: Sharp edge of the arm of the New York Steinway piano (left) and rounded corner of the arm of the Hamburg Steinway piano (right). Photographs by the author.²⁵

In the last several years, the New York factory shifted to adding a polyester mix to the finish of their case, which had already been done by the Hamburg factory for decades. Traditionally, the New York factory incorporated micro cellulose lacquer and satin finish for their pianos.²⁶ The finishing coat of spray and its material on the outer veneer of the piano case affects the overall appearance of the piano. The polyester finish has gained popularity in the twenty-first century, and the majority of builders from

²⁴ Kent Webb (Manager, Technical Service and Support at Steinway & Sons) in discussion with the author on February 23, 2018.

²⁵ Left: sharp edge of the arm of the New York Steinway piano. Right: rounded corner of the arm of the Hamburg Steinway piano. Photographs by the author.

²⁶ Kent Webb (Manager, Technical Service and Support at Steinway & Sons) in discussion with the author on February 23, 2018.

around the world today prefer this shiny, reflective surface for their instruments. The traditional lacquer finish of the New York piano has a duller, non-reflective shine. Some musicians and technicians even argue that the hardness of the coating material can affect the quality of tone. However, in recent days the Hamburg and New York factories have applied similar finishes on their pianos, which makes it difficult to distinguish the two by simply observing how they shine on the surface. The types of wood used in the action parts of the pianos of both Worlds also differ. American hard rock maple is used for the New York Steinway's *repetition*, hammer shanks and flanges, whereas Hamburg uses hornbeam for these parts.



A rounded hammer shank of the New York Steinway made of maple (left) and the hexagonal hammer shank of the Hamburg Steinway made of hornbeam (right).

Photographs by the author.²⁷

The hammer shanks come in different shapes. The maple shank for the New York pianos are rounded, and Hamburg's hornbeam shanks are hexagonally cut. Density and hardness also vary between these two species of wood, and they impact the way in which the hammers strike the strings, affecting the tone. As small as each of these differences

²⁷ Left: round hammer shank of New York Steinway, made of maple. Right: hexagonal hammer shank of Hamburg Steinway, made of hornbeam. Photographs by the author.

may be, when all combined, they have a significant effect on overall distinctions between the New York and Hamburg Steinway pianos.

Tonal Differences

Every piano manufacturer boasts about their tones being excellent, or even superior to others. Adjectives such as beautiful and brilliant are often used for marketing their instruments. Pianists also like to express their perception in similar terms: bright, glittering, dark, rich, colorful, powerful, and so on. What do they mean? Is perception of sound so subjective that it can only be expressed through these ambiguous terms? While artistic description of perceived sound should be encouraged, it is also important to study in a more intimate manner why a piano sounds the way it does. Traditionally, regional traits were more evident in the early pianos, and qualities of tone and mechanism were distinguishable even among builders within the same region. Although modern pianos are more standardized than ever today, due to the globalization of the piano industry, remnants of these characteristics can still be found. Even in the case of Steinway between instruments made in Hamburg and New York, there is now “more of a unification of design principles and even manufacturing techniques, though each plant still certainly has the individual aspects that they maintain based on facilities, training, personnel, and labor laws,” says Webb.²⁸ Many performers and technicians describe the tone of Hamburg-made Steinways as “bright” or “shiny,” and New York ones as “rich” and “colorful.” Of all the contributing factors, piano technicians point to the hammer of a piano as most directly connected with the production of various tones. The majority of modern piano manufacturers use hammers that are made out of pressed felt around a wooden molding.

²⁸ Kent Webb (Manager, Technical Service and Support at Steinway & Sons) in discussion with the author on February 23, 2018.

However, each company differs in the process of treating and pressing the felt. For Steinway & Sons, hammers made for New York and Hamburg pianos have distinctive qualities specifically designed to match their respective instruments. American hammers are made by Steinway & Sons in its New York factory, whereas the German hammers are made according to the Hamburg Steinway's specifications by Renner, an outside piano supply producer that provides parts for various manufacturers. The most tangible difference in these hammers is the physical hardness between them. Hammers for the New York are made by felt compressed and glued to the wooden molding in a lower temperature than that of the Hamburg. This results in the varying hardness of hammer felt, Hamburg being much harder. This necessitates that hammers be "voiced" differently, that is, to be treated and worked on after they come out of the factory, and then matched to a particular piano. The initial voicing of these hammers from the two factories is approached in a different, almost opposite, manner. The hard, "hot-pressed", and dense hammers of the Hamburg Steinway need to be softened. This procedure is done by using a tool with needles and by tapping or inserting them on the designated areas of the hammers to break up and loosen the felt particles. New York hammers that were pressed in a cooler temperature come out of the factory softer and thus need to be hardened to produce the desired tone. The "juice," as it is nicknamed, is a mixture of lacquer, acetone, and sometimes other chemicals that gets injected into the hammers. When the "juice" dries, it makes the hammers harder and more resilient.

The Art of Piano Selection

What does all of the knowledge about piano mechanisms and their differences have to do with actually performing and choosing the repertoire or instrument? Just as a performer might carefully select appropriate pieces of music suited for a particular audience, so should they also be able to discern their choice of instrument as it relates to a given repertoire, when presented with an option to select from multiple pianos. It is important to remember, however, that there are many components that contribute to making such a decision, aside from just repertoire choices. Past experiences, conditions of the piano and pianists, and acoustics of the venues should all be taken into consideration for selecting an instrument. Heightened awareness of such factors may lead to a more reasonable discernment of the instrument and consistent performance. Past experiences of the performer always seem to be one of the primary influences in choosing an instrument. John Cavanaugh, registered piano technician and executive director of piano technology at the Oberlin Conservatory of Music, who services pianos worldwide for concert pianists, states that he finds pianists' initial tendency is to favor the instrument with which they are most accustomed and comfortable.²⁹ He has seen many cases of pianists, who usually perform on European pianos, to prefer instruments of that region, particularly the Hamburg Steinway pianos. As for the American-trained pianists, it is not uncommon for the New York Steinway to be preferred. Experiences ingrained in the performer, even going back to the tone and touch of the piano of their childhood, can have an effect on how a pianist assumes and predetermines before carefully observing

²⁹ John Cavanaugh (RPT, Executive Director of Keyboard Technology at Oberlin Conservatory of Music) in discussion with the author on March 23, 2018.

each instrument. Associations, such as memory and past experiences, play a significant role in piano selection.

Other factors that are no less significant, having more direct consequence in a performance, are the conditions of the pianos, performers, and the perception of touch and tone. The condition of the piano is crucial in correctly assessing its quality. At the time of the piano selection, whether days or hours before a performance, a given condition of an instrument can be separated into two categories: adjustable and unchangeable. Pianists are often quick to notice the problem of tuning. This is certainly adjustable, and tuning should be in pristine condition. Although modern pianists are rarely found criticizing the temperament, it must be laid out properly as a foundation upon which octaves and unisons are tuned. Pianos displayed for a selection should always be tuned, but an instrument should never be ruled out on the basis of tuning only, for it is adjustable. Voicing and regulation of the actions are also adjustable to varying degrees. These include alignment of the action parts for the proper engagement of the double escapement mechanism, treatment of hammers for the production of desired tones, and making sure that those hammers meet the strings in a straight and plane line. Unchangeable aspects include conditions of the strings, soundboard, plate, and replacing of action parts such as keys, repetitions, hammers, and dampers. It is also important to note that a performer's physical and psychological conditions can alter perception and preference. Perception of touch and tone is intertwined and complex. "The touch of a keyboard defines the player's contact with the instrument and directly triggers his psychological and artistic response,"³⁰ and "the interrelationship between touch and tone

³⁰ Tilman Skowronek, *Beethoven the Pianist* (NY: Cambridge University Press, 2010), 124.

is hard to ply apart.”³¹ Although Steinway & Sons has a set of specifications for the weight of their actions, there can be keyboards that are either heavier or lighter than others, when every pertinent part is measured and weighed.³² However, pianists are usually unable to correctly identify the actual differences in the down weight, a minimum amount of weight needed for a key to be depressed completely. This is due to the fact that the perception of touch and tone cannot be separated, and the action can feel heavier or lighter to pianists than the actual weight, depending on the resulting tone and sound they hear coming out of the instrument. This phenomenon can also occur after a tuning of the piano, when pianists often experience a different feel in the touch of the keyboard even when the action had not been adjusted in any way. In cases like these, it is advisable that a piano technician be consulted. Interaction between the performer and technician is often lacking, and it constricts an opportunity for the highest artistry, which is impossible to achieve without both working together. Well-trained and experienced technicians are able to articulately communicate with the performers the conditions of the piano, acoustics of the venue, and what can and cannot be done to the piano prior to the performance.

Lastly, although some of the stereotypes and regional differences hold true between New York and Hamburg Steinway pianos, every piano should be assessed individually. “There is such a variety in how instruments are prepared, or not, that paying too much attention to where it was built can impede the genuine enjoyment of what it has to offer...while it is fascinating to note and compare and contrast the production from HH

³¹ Eric Schandall (RPT, former administrator/lecturer of the C. F. Theodore Steinway Technical Academy at Steinway & Sons, NY) in discussion with the author on February 25, 2018.

³² These may include any combination of weight, ratio, friction, inertia of each action part.

(Hamburg) and NY, the final declaration of capacity is made by the instrument itself,” says Schandall.³³

Repertoire Considered

In order to discuss and compare the Steinway pianos from both the Old and New Worlds in the fairest manner possible, certain criteria need to be fulfilled. For the purpose of this project, the criteria consist of preparing, regulating, tuning, voicing of the instrument, and meeting the technical specifications provided in the World-Wide Technical Reference Guide published by Steinway & Sons. Two pianos of the same model, namely D, the concert grand, that are close in production years shall be compared. In discussing the types of piano music better suited for one piano than the other, four separate pieces will be presented. They showcase a variety of styles and genres from diverse musical eras and regions. Historical context, dynamic range, articulation, phrasing, and texture of each piece will be observed in order to select an appropriate instrument.

Prelude and Fugue in D Minor, BWV 875 (WTC Book II) by J. S. Bach

J. S. Bach has always served as a model in contrapuntal music writing. Many of his keyboard works such as the English and French suites, Partitas, and Toccatas employ this technique. Two books of Bach’s *Well-Tempered Clavier*, each containing twenty-four preludes and fugues covering all diatonic key signatures, have inspired composers for generations, and remain as part of the major repertoire to be studied and performed today. In fugal music, the relationship between the voices is not simply about melodies

³³ Eric Schandall (RPT, former administrator/lecturer of the C. F. Theodore Steinway Technical Academy at Steinway & Sons, NY) in discussion with the author on February 25, 2018.

and accompaniment. It is built upon subjects, countersubjects and harmonic support intertwined in a tight-knit manner. Scholars and performers have always been engaged in never-ending arguments over which type of keyboard instrument is most appropriate for Bach's works, or the performance styles thereof. However, regardless of stylistic convictions or preferred instruments, there is no denying that every voice and its line play an integral part in contrapuntal music. The opening eight measures of Prelude in D Minor, BWV 875, is an example of counterpoint in two voices. At first, a pianist well immersed in classical and romantic styles may see the first four measures and interpret the left hand as a melody while the sixteenth notes in the right hand accompany it. However, the player soon finds the figures have been simply flipped between the hands over the next four measures, realizing that those eight measures were a demonstration of contrapuntal writing. In such a case, the sixteenth note figures do not merely provide accompaniment and harmonic support, but act as counterpoint to the other voice. One way to successfully execute contrapuntal passages on a modern piano is to clearly bring out the counterpoint, by emphasizing it dynamically or using varied articulations. For such an effect, it necessitates a piano that possesses strength in clarity of individual tone, richness in fundamentals and subdued overtones. One of the Hamburg-made Steinway piano's strengths lies in the clear separation between treble and bass sections of the keyboard. This facilitates a sonority that does not blur or blend the tones at different registers. The fact that the hammers and their felt made for Hamburg pianos are harder-pressed than those of New York contributes to this phenomenon. The lower half of its keyboard does not overwhelm the upper, and each voice cuts through clearly, regardless of the range. In the Fugue of this D minor set, this quality is needed even more, as one

more voice gets added, resulting in three-voice counterpoint. If evenness in the initial attack of the tone and clarity of that tone in every voice throughout the entire span of the keyboard is the goal, the Hamburg Steinway piano is the appropriate choice. Robert Murphy, a piano technician who is also a curator of period instruments at the Oberlin Conservatory of Music, believes “the Hamburg instruments closer mimic the harpsichord and early fortepiano.”³⁴ A majority of the piano technicians expressed their preference toward the Hamburg Steinway for its clarity of tone, richness of fundamental, and registral distinctiveness, when performing or listening to Bach’s heavily contrapuntal music.

Piano Sonata in D Major, K. 576 by W. A. Mozart

Written in 1789, Mozart’s Piano Sonata in D Major, K. 576 represents a culmination of Viennese Classicism. It is characterized by the use of longer phrases, increased indication of dynamics, and more detailed articulation markings, compared to the works by composers of the previous eras. The art of articulation was especially emphasized in keyboard playing during the Classical era, when music was deeply associated with rhetoric. Beauty in singing and phrasing was achieved by first and foremost clear declamation of syllables, words, and punctuation, and not in long continuous melodic line that traverses across bar lines.³⁵ Mozart, the son of a renowned violin pedagogue, was inevitably influenced by his father’s taste in articulation, accentuation, and dynamics, as well as composition and performance. Mozart has left some of his own remarks about the pianos of his time, expressing his favor towards

³⁴ Robert Murphy (Assistant Director of Piano Technology and Curator of Fortepianos at Oberlin Conservatory of Music) in discussion with the author on March 7, 2018.

³⁵ Rosenblum, *Performance Practices in Classic Piano Music*, 12.

Stein's pianos. His reasoning gives an insight to what he sought in a piano. In his letter dated 1777, he praised Stein's piano for its ability to damp well and quickly, or in Mozart's own words, the "sound ceases the moment I have produced it," and its evenness of tone.³⁶ Rosenblum describes that the

Fortepiano tone is silvery and rich in overtones. The decisive, bright sound of the initial attack decays rapidly. These qualities give the tone good definition, making it perfectly suited to the textural clarity of the contemporary music...The manner of fortepiano construction also produced marked natural differences in color between the bass, middle, and treble registers that would be anathema on a modern instrument. Such differences sharpen the distinctions between parts of the musical texture and enhance polyphonic passages.³⁷

Aesthetics of instrument building, composition, and performance went hand in hand, where written music, capabilities of the instrument, and definition of tasteful execution reflected each other. One of the resulting musical traits often found in music of this era, was a short slur. This can be seen in many of Mozart's works where he meticulously indicated articulation markings. In his D major Piano Sonata, K. 576, many short slurs of four, three, or even two notes can be found. The most widely accepted historical performance practice dictates that a proper interpretation of such phrases is to emphasize certain notes within a slur according to the metrical hierarchy, followed by a break of sound before the next phrase begins. In order to execute these small phrases, sometimes referred to as the micro phrases, clarity of individual tone and an ability to pronounce the fundamental of the pitch without being muddled with other notes or partials are desired in a piano. Hamburg Steinway traditionally produces a clear, pronounced, and crisp sound due to its precision in its construction and hard hammers. If Mozart preferred to have a piano that decays rapidly, a tone that is rich in fundamental

³⁶ Rosenblum, *Performance Practices in Classic Piano Music*, 22.

³⁷ Rosenblum, *Performance Practices in Classic Piano Music*, 38.

and suppressed in overtones will mimic that effect. It is not so much the damping of the piano, for two of the Steinways can be adjusted to damp in the same manner, but it is the purity of the Hamburg tone produced by its original hammers that creates it. This characteristic is considered to have been inherited from the European tradition of preferred sound quality. The subtle but clear tone is especially fitting for the outer movements, first and third. The second movement is sure to sound spectacular on the soft, rounded sound of the New York Steinway, since switching pianos between movements has never been seen, Hamburg Steinway piano and its characteristics are best suited for this sonata by Mozart.

Étude-Tableau in E-flat Minor, Op. 39 No. 5 by S. Rachmaninoff

Many of Rachmaninoff's piano works exhibit traits of late Romanticism. Sophisticated harmonic progressions, long melodic lines extending over the bar lines, and thick textures are some of the characteristics that are manifested in his piano music. Melody line placed in the treble played by the right hand, which is supported by chordal or accompanimental left hand, also signifies the traits of Rachmaninoff's predecessors like Chopin and Liszt. A master of counterpoint, Rachmaninoff frequently embeds countermelodies in the middle voices, continuing across the bar lines. Extremes of dynamics are exploited often and move quickly back and forth.

Of all four composers discussed here, Rachmaninoff was the only one who lived in the United States and was familiar with the sound of New York Steinway pianos. Steinway & Sons of the American branch provided Rachmaninoff with "selected special pianos and a travelling tuner."³⁸ They advertised their product using a painting of the

³⁸ D. W. Fostle, *The Steinway Saga: An American Dynasty* (New York: Scribner, 1994), 453.

pianist, portraying him as “Sergei Rachmaninoff, the greatest Russian pianist since Rubinstein”, who is believed to have “said: ‘Only upon a Steinway can the works of the masters be played with full artistic justice.’”³⁹ In this painting of Rachmaninoff, he is seated at an American Steinway piano. Whether or not this particular advertisement was purely for publicity for both the instrument maker and pianist, Rachmaninoff knew the Steinway sound intimately, particularly that of the American piano. Even though the opus 39 Études were composed shortly before Rachmaninoff left for the United States, his writing style remains not dissimilar from some of the later works. Number five of this set, in E-flat minor, has the widest range of dynamics observed among the pieces considered in this project, containing *pp* to *fff*. It also covers the most diverse range of registers, and low notes in the bass are explored in particular. Rachmaninoff also seeks various colors by the means of rapid shift in harmonic progression and even shift in modes in this Etude. For an effective performance of this piece, a piano that has the capability of creating various colors, different dynamics, nuances, and tones is needed. Richness of bass notes in the left hand is also important. For the most part, the texture of this Etude is written orchestrally, rather than a simple vocal line against an accompaniment.

Every interviewee who voiced their opinion on the use of pianos stated that New York Steinway piano is preferable. Eric Schandall, a former employee at Steinway & Sons in New York, who currently works in Oslo, Norway, says that the New York Steinway piano stereotypically and subjectively has a darker sound than the Hamburg, as well as an orchestral sound and possesses a broader dynamic range that can “fill a large

³⁹ Lieberman, *Steinway & Sons*, 145.

venue to the back of the hall.”⁴⁰ Others point to the “round tone, power, tonal complexity, color palette, ability to produce huge volume of sound without being ‘overdriven’, ”⁴¹ “rich in overtones and ability to bloom as they collide”⁴² as the New York Steinway’s characteristics. The bloom, a term often used by technicians, refers to the perceived increase in dynamics and openness of tone after the initial attack. This results in the feeling of a single note crescendo, an ability a keyboard instrument cannot mechanically possess. This effect can be heard on more New York Steinways than Hamburg pianos. The softer hammers, as well as a slightly different construction of the soundboards, are believed to be the cause of this effect. Even if New York instruments lack the clarity in their initial attack, the softer hammers hardened properly by the technicians bring out the upper partials, resulting in ringing, singing tones that are more appropriate for the music of the Romantic era in general. The New York Steinway pianos have much more tolerance for heavier and faster depressing of the keys, and can be pushed further than the Hamburg pianos before sounding too harsh or going beyond its tonal capacity. For this reason, when both pianos have been groomed to their full potential, their strengths polished and weaknesses subdued, a New York Steinway is still the kind of piano that can satisfy Rachmaninoff’s sound requirements.

Prelude and Fugue in G Major, Op. 87 No. 3 by D. Shostakovich

Shostakovich’s music is often recognized for its rhythmic drive and repeated motives found in his symphonies, concertos, and chamber music, as well as in his piano

⁴⁰ Eric Schandall (RPT, former administrator/lecturer of the C. F. Theodore Steinway Technical Academy at Steinway & Sons, NY) in discussion with the author on February 25, 2018.

⁴¹ Norman Vesprini (MM., RPT, Piano Technology Manager at University of Notre Dame, Department of Music) in discussion with the author on March 13, 2018.

⁴² Robert Grijalva (MM, RPT, Director and Assistant Professor of Piano Technology at the University of Michigan, School of Music, Theatre and Dance) in discussion with the author on March 8, 2018.

works. His set of *Twenty-Four Preludes and Fugues*, Opus 87, curiously poses a performance dilemma. In the mind of a pianist, a set of twenty-four Preludes and Fugues straightway insinuates that of Bach's, and in front of every composer of such pairing stands his monumental two volumes of the *Well-Tempered Clavier*. Even an original Soviet composer of the twentieth century such as Shostakovich, composing his own Preludes and Fugues two hundred years after Bach's death, sought lessons and inspiration in contrapuntal music writing from this masterful German. Pianist Steven Spooner, a professor of piano at the University of Kansas, tells the story of Tatiana Nikolayeva, with whom he was once in close contact, saying that it was after Shostakovich heard Nikolayeva's playing of Bach that he contacted and entrusted her with performing his own Preludes and Fugues. She then went on to spread the work worldwide, making it the most popular set in this genre after Bach's. Compositionally, Shostakovich has integrated touches and sonorities that infer sounds of different keyboard instruments such as clavichord, harpsichord, and organ. This effect can also be found in Bach's works, using a variety of textural, registral, and figurative differences. Shostakovich's Prelude No. 1 in C Major and its limited range of register and homophonic progressions seem to suggest a clavichord, while a harpsichord can be inferred in the running sixteenth notes of the second Prelude in A minor. In No. 3, Prelude in G major, the use of many pedal points may reflect organ technique. As for contrapuntal writing, the treatment of subjects and counter-subject, and use of episodes and cadences, Shostakovich's writing clearly points back to the old masters. Despite these connections and similarities, application of the baroque performance practice should be avoided, as these pieces were composed for the modern piano, as evident in the composer's markings, compositional date, and premier

performances. Another significant difference between the Preludes and Fugues of Bach and Shostakovich is that the latter often seeks to create moments of tension and highlight by destabilizing tonality, with a placement of dissonant harmony. Although Shostakovich assigns a key to each of his Preludes and Fugues, the treatment of harmonies is out of the common practice functionality, and some of the progressions are misleading.

The Prelude and Fugue No. 3 in G major from this set, opus 87, showcases a variety of touches and nuances a modern piano can produce. Many pedal points found in the Prelude, one of which is a chord held for five measures, can be executed with the sostenuto pedal. The sostenuto pedal is a mechanism in which

it was possible to keep any selected group of dampers –or one single damper – off their respective strings while the rest remained in contact with theirs. In this way it was possible on such a piano, for instance, to strike a bass note or octave, sustain it with the new pedal, then play a variety of different chords or passages freely with both hands in another register of the keyboard without muddling the harmony.⁴³

Although invented in the mid-nineteenth century, it was seldom used for its fragility and did not become an integral part of the piano until it was further developed. Now, it is truly a standard feature particular to the modern piano. Whether or not the sostenuto pedal is used, however, a modern piano disperses countless overtones and partials when bass notes are held simultaneously with moving voices in the treble register. In this Prelude, Shostakovich was clearly seeking the resonant richness of tone through pedal points below moving harmonies, which creates a resonance full of upper partials in addition to their fundamental pitches. In the Fugue, the change in atmosphere is unmistakable, where the crispness of tone and a focus on the fundamental pitch of the tone are emphasized through the constant use of accents and staccatos.

⁴³ Loesser, *Men, Women & Pianos*, 406.

These suppositions are supported by Nikolayeva's recording of this piece which was broadcasted on Soviet radio in December 1992 and in which she changes her approach to the keyboard between the Prelude and Fugue.⁴⁴ For the Prelude, although it is marked *forte*, she produces a round, elongated tone through flatted hands as can be seen in the video, whereas during the Fugue she performs in a highly articulate manner, creating a pointed and sometimes harsh sound in the process.

Curiously, most of the piano technicians interviewed, many of whom are also experienced performers, did not pick the New York or Hamburg Steinway for performing this piece, but stated that either one has its own benefits. This is due to their understanding of the variety of touch and tone incorporated into Shostakovich's Preludes and Fugues. The New York Steinway traditionally would get a rounded tone with its soft hammers and abundance of upper partials, appropriate for a movement like the G Major Prelude. A focused tone that is necessary in the proper execution of the following Fugue is found more in the Hamburg-made Steinway however, created by its hot-pressed, highly dense and compacted hammers. If a prelude were an introductory statement to be followed by a main course of a fugue, the piano should be chosen according to its relevance to the latter. For this reason, a Hamburg Steinway concert grand, stereotypically able to produce a tone that is highly concentrated in the fundamental, along with its articulate resonance, should be used. With distinct registral variedness, Hamburg is again the instrument of choice for highly contrapuntal music,⁴⁵ even for Shostakovich, a composer of the twentieth century.

⁴⁴ Vladivostok 1969, "Shostakovich - Preludes and Fugues, Op.87, Book I - Tatiana Nikolayeva," YouTube Video, 7:37, June 29, 2016, <https://www.youtube.com/watch?v=ZyURjdnYQaU>.

⁴⁵ Norman Vesprini (MM., RPT, Piano Technology Manager at University of Notre Dame, Department of Music) in discussion with the author on March 13, 2018.

Conclusion

Although there has not been a drastic alteration in its appearance in the last century and a half, the piano continues to evolve even today in the twenty-first century. Some builders and manufacturers are breaking convention by integrating new materials like carbon fiber in the action parts, manipulating the geometry of the action mechanism and even reconsidering the overall shape of the instrument. As listeners' taste and music itself has changed, so have instruments and their sounds. However slow and insignificant the current developments may seem, the nature of man will not allow the piano to stay in its current form forever. It is interesting to note that Steinway & Sons, once a forerunner of innovations, as recorded in their hundreds of their patents, is now considered a traditionalist company that takes pride in their legacy of instrument making. Despite some changes and improvements, Steinway has not significantly deviated from their formula in the types of wood used in each part, the techniques used in the casting of the iron frame, bending of the rim, or treatment of hammers. They continue to use maple and hornbeam for New York and Hamburg action parts respectively, and some procedures are done by hand while other manufacturers have automated them. It is perhaps this valuing of traditions that has kept Steinway successful and exceptional for many decades. Consistency in the qualities of their pianos became familiar to the pianists, which resulted in Steinway's dominance in concert stages all over the world.

No matter how New York and Hamburg Steinway pianos evolve from now on, the demand for composition and performance of keyboard music will not decline anytime soon. Even as styles change, pianos will continue to be built. Musicians will keep rediscovering old music and composing new music. Performance practice and playing

styles will always be discussed and compared among the performers. In the same way, the importance of educated and thoughtful assessment of an instrument will never change. Pianists are often used to playing on whatever instrument they are given, and this praiseworthy adaptability is unmatched by any other instrumentalists. However, also true is their lack of understanding of their very own instruments on which they spend a lifetime. This unfortunate disconnect hinders the potential of reaching the highest form of artistry. Instead, intimate knowledge and an ability to correctly assess a piano will lead to a more wholesome performance, when a pianist is able to identify the instrument's weaknesses to be aware, and strengths of which to take advantage. As performers deliberate articulation, dynamics, phrasing, and overall execution of any given piece of music, the instrument used in a performance itself should also be approached in such a careful manner, regardless of having an option to choose from more than one. No interpretation of music is complete without the consideration of the instrument being used. The increased knowledge of the piano will surely enhance the musical experience of all, both performers and listeners, for generations to come.

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